Institutional setting, policy instruments and organisation of research funding for Social Sciences and Humanities (SSH) in Estonia

GlobalSSH project background report

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This paper was prepared within a Special Support Action "Research Collaboration in the Social and Human Sciences between Europe, Russia,other CIS countries and China" – Global SSH. The Action is supported by the European Community under the Sixth Framework Programme for research, technological development and demonstration (FP6) Thematic Area 'Citizens and governance in a Knowledge-based society' Call FP6-2004-CITIZENS-6 --8.3.3 - Promoting international research and policy cooperation in social sciences and humanities, contract nr. 028997. Additional support to the Action is provided by INTAS under INTAS Thematic Call in Social and Human Sciences 2005, contract nr. 05-1000006-8446. More information on the Action is at www.globalsocialscience.org.

May 2007, Tartu, Estonia

The report objective

This background report is aimed to provide a survey of Social Sciences and Humanities (SSH) institutional setting and organisation of SSH research funding and policy instruments in Estonia as an EU member state. Along with this report, a number of reports were prepared for the CIS countries within the GlobalSSH project; this included reports for Armenia, Azerbaijan, Georgia, Russia and Ukraine. Comparison of the institutional frameworks in Europe, including Estonia, on one hand; and in the CIS countries will allow to obtain a better picture of the differences and similarities of the institutional framework in Europe and the CIS countries and based on that – to elaborate recommendations for activities that could promote cooperation between the EU and the CIS countries.

The institutional dimension of science, including the social and human sciences (SSH), is well documented in Estonia. There is an abundance of information on the topic on Internet; the report includes references to multiple Internet links where additional detailed information on the institutional arrangements and funding of sciences in Estonia could be found. Major sources of information that were used for compilation of the report are listed below as well as in the report references.

Acknowledgements

The first chapter discussing history of the SSH in Estonia is based on the information presented in the Estonica: Encyclopedia about Estonia, http://www.estonica.org/ and a report of the FP5 project "The Knowledge Base Social Sciences in Eastern Europe" (2001).

Descriptions of the institutional structure for and funding of research and technological development in the field of the SSH in Estonia as well as sciences classification systems were prepared based on the available ifnormation in the ERA-MORE Visiting Researcher's Guide to Estonia, the Estonian Research Information System, www.etis.ee and relevant reports of the Estonian Ministry of Science (2002, 2006) and Education and the Estonian Archimedes Foundation (Archimedes 2006).

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History of SSH development in Estonia

Establishment of an institutional science in Estonia could be dated to 1632 when during the period of the Swedish reign University of Tartu was established. University of Tartu had four faculties - theology, law, philosophy and medical. During the Swedish era the university was several times closed and evacuated to other towns because of wars. After the arrival to Estonia and Livonia of Russia as a new ruler, the university was transferred to Sweden in 1710. However, the seeds of education had been sown and development of human and social studies was continued.

At the end of the 18th century and the beginning of the 19th century, studies of the Estonian rural people and their life-style started. **August Wilhelm Hupel** (1737-1819) began to publish academic collections in which included topics ranging from history to ethnography. **Karl Ernst von Baer** (1792–1876) made an attempt to describe the health state of the rural people in the spirit of his era in 1814.

Establishment in 1724 in St. Petersburg of the Academy of Sciences was an important step in developing a more professional approach to science; the first researchers of Estonian origin joined the Academy in the 1730s. University of Tartu was re-established in Tartu in 1802 and developed into a centre of scientific life of the Baltic provinces of Russia that were under the influence of German culture. The importance of the German element in the development of the university should not be underestimated. In the light of the ideas of **Alexander von Humboldt**, a typical scientific university was established in Tartu, which stood out in the scientific landscape of its time for being the crossroads of Russian and German cultures. This position guaranteed ideal conditions for both expeditious information exchange and an 'academic migration'.

Being a centre of identity for Baltic Germans gave a certain local accent to the development of science based at Tartu University. The founder of the Baltic school of private law (and the Baltic Private Law), **Friedrich Georg von Bunge** (1802 - 1897), was active in science, publishing a collection of archive materials concerning local history. Research on history was important also beyond the local context. **Johann Philipp Gustaw Ewers** (1779-1830) became a renowned specialist of the history of the Russian state and law. For a certain time, **Karl Wilhelm Bücher** (1847-1930), who later, at Leipzig University, became one of the founders of journalism, was working as a teacher of economics and social politics in Tartu. Among philosophers, **Gustav Teichmüller** (1832-1888) found recognition in Europe. At the outset of the First World War, the university was evacuated from Tartu to Voronezh, Russia. Thus, a number of scholars who had connections with Tartu continued their work in Russia. The history of the 'German' university came to a close in 1894 when Russian became the official language of the university.

On 1 December 1919, during the War of Independence, University of Tartu was reopened as a national university. In 1919, yet, in many fields, the language of science was not developed and there was a lack of people who would be capable of 'doing science' in Estonian. It was not until the 1930s that the majority of subjects were read in Estonian in University of Tartu. The number of national scientific staff members, especially professors, was growing thanks to the scientists who were returning from Russia. Also, foreigners were invited: several young Finnish scientists came to teach as professors at the university. In that period, the foundation was laid, mainly by Finns, for most of the Estonian national sciences. In 1938, the Estonian Academy of Sciences

was founded as a body of prominent Estonian scientists, scientific societies and institutions, conducting fundamental research. By 1939, prior to the outbreak of the World War II, Estonia had set up basic research institutions.

All that was changed abruptly by the Soviet occupation and World War II. SSH suffered gravely especially during the Stalinist era. History, classical languages, theology were removed from the curricula. The teaching of heredity and psychology suffered most during the Stalinist period. The end of the 1950s and the beginning of the 1960s was a period when the decline that occurred during the Stalinist era in the development of science had been overcome.

A number of SSH disciplines such as linguistics, semiotics, archaeology, ethnology were developing. New research institutes under the Academy of Sciences were established. This included the establishment of the Institute of International and Social Studies under Estonian Academy of Science. The schools of the late Paul Ariste (linguistics) and Juri Lotman (semiotics) became well-known in the world. A well-known school of sociology developed at the University of Tartu that was led by now professor emeritus Marju Lauristin.

SSH disciplines such as history, political and economic studies were under the ideological pressure and restrictions imposed by the authorities and did not receive for that reason sufficient development. All academic literature was published only in Russian and often had a strong ideological flavor. Access to international journals was basically nonexistent. Financial resources for books and journal subscriptions were very scarce. The deficiencies were alleviated to some extent by gifts from other countries and by literature scholars bought from abroad themselves. The situation started to improve in the mid-1990s when the universities started to subscribe to different international journals.

Social scientists' active engagement in the movement oppositional to the communist regime in Estonia in the course of Perestroika in the mid-1980s is worth pointing out. In 1987, four prominent social scientists - Siim Kallas, Tiit Made, Edgar Savisaar and Mikk Titma - published an open letter titled "IME" (Isemajandav Eesti, *Self-Governing Estonia*), which argued to establish a system of self-government in Estonia (Edasi, September 26, 1987). Later, a number of social scientists developed political ideas and a new political system in the country. For example, three scholars from the Institute of International and Social Studies in Tallinn were elected representatives to the Supreme Soviet of the USSR in 1989, where they played a role in initiating the democratic processes that were to bring about the dissolution of the Soviet Union. A number of social scientists became members of the Estonian Parliament in later years. See more at http://www.cee-socialscience.net/archive/politicalscience/estonia/report1.html.

20 August 1991 Estonia regained its independence. In 1991, the Estonian Science Council (ESC) became the main decision-making body in research and development policy. Its main function was to advise the Estonian Government in all matters of science, development and technology as well as higher education. In the same year the Estonian Science Foundation and the Estonian Innovation Foundation were founded.

In December 1993, the ESC was reorganised and became known as the Research and Development Council (RDC). During the period of 1996-1998, the majority of the former Academy of Sciences research institutes and institutes subordinated to various ministries were

merged with the universities. In 1997 the Research (Competency) Council (TKN) was established and the Archimedes Foundation was founded by the Ministry of Education and Science. In 2000 Enterprise Estonia Foundation was launched. Current SSH research in Estonia is currently divided between different academic and non-academic institutions. The main centres of the SSH research are the University of Tartu and Tallinn University.

In order to better understand the thematic orientation of Estonian SSH, the particular historical developments have to be considered. Historically the humanities developed strongly; the humanities, centered around the ethnic aspect, i.e., study of the Estonian history, Estonian language, Estonian dialects and development of the Estonian literary standard. In the humanities and social sciences research the influence of the Baltic German scientists could be still traced – in the fields of athropology, history and geography. The SSH disciplines that suffered the most from the Soviet time ideological pressure are still weak and there is no as yet one strong scientific community in Estonia for the social sciences – there are still only small islands of scientific excellence for topics such as comparative politics or some aspects of international relations. The future development of the SSH research community will depend on the level of funding of those directions of science in Estonia and first of all on the support to be provided to young social scientists – since the current SSH scientific schools are extremely small, they can grow only thanks to bringing into those small research groups the younger generation researchers. In addition, excellent scientists from abroad need to have good motivation to come and work in Estonia; unfortunately today the condition for accepting international researchers in general is far not good enough. If not arrived on an EU and the USA generous fellowship grant but accepting an invitation of a university in Estonia to work, foreign scientists as came out in the discussions with some of them, are frustrated by low salaries, absence of scientific schools where they could work, difficulties with finding affordable housing, etc.

Institutional framework for the RTD support in Estonia

Since the time of regaining independence and especially in connection with entering the European Union, the institutional system for the support of the RTD has been developing intensively.

Classification of SSH research areas

National level

Estonian Ministry of Science and Education has adopted **a classification system of research fields and areas** on 28 July 2006 (Estonian Ministry of Science and Education, 2006). The system reflects the specifics of the research system in Estonia – the historically developed research thematic with a focus on linguistics, cultural and environmental studies and the fact that Estonian research community is small to compare to the ones in other countries. SSH research areas are represented in two large research fields – „Culture and Society" and „Biosciences and Environment" and include the following fields:

<u>Culture and Society</u>

1. Philosophy
2. Theology
3. History and Archaeology
4. Cultures Research
5. Aesthetics and Arts Research
6. Philology and Linguistics
7. Law
8. Psychology
9. Logopedics
10. Education
11. Social Sciences
12. Economics
13. Political Science and Administration
14. Communication and Information Sciences

Biosciences and Environment

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8. Research relating to the State of the Environment and to Environmental Protection
10. Geography and Regional Studies
11. Research relating to Environmental Policy, Environmental Economy and Environmental Law

This classification is the basis for organisation of the data on research activities in Estonia in the Estonian Research Information System, www.etis.ee that is also used for organisation of the evaluation of grants applications accepted by the Estonian Science Foundation and other Estonian government research funding programmes.
There is also a separate classification of fields and disciplines of studies in the Estonian higher education that was adopted by the Estonian Ministry of Science and Education in 2002 (Estonian Ministry, 2002). It includes the following SSH fields: education; the humanities and arts; social sciences, business and the law. The classification disciplinary division is as follows:

(1) Disciplines in the field of education are teacher training and pedagogy.
(2) Disciplines in the field of the humanities and arts, including (2.1.) the arts; (2.2.) the humanities.
(3) Disciplines in the field of social sciences, business and the law, including (3.1) social and behaviour sciences; (3.2.) journalism and information propagation; (3.3.) business and administration; and (3.4.) the law.

International level

Estonian SSH scientists and organisations are actively involved in the research cooperation on the European as well as global levels. To organise an efficient information exchange and cooperation on the European level, international classification systems are used. The Estonian Research Information System lists two major classifications – the Common European Research Classification Scheme (CERCS) and the OECD Frascati Manual Classification of Field of Science and Technology (FOS).

The Common European Research Classification Scheme (CERCS), http://cordis.europa.eu/cerif/, is based on the Common European Research Information Format (CERIF) that has been developed by a group of experts from the EU Member States and Associated Member states, under the co-ordination of the European Commission. The CERIF includes a quite detailed classification of research fields, including SSH.

The Frascati Manual FOS (Frascati Manual 1980) classification (see more at www.oecd.org), is used to classify R&D expenditure by functional fields, notably public sector R&D. The revised FOS (Frascati Manual 1993, 2002) reflected the latest changes in Science and Technology; the classification is presented in Table 1.

Table 1. The Frascati Manual (2002) Classification – Social Sciences and Humanities

5. Social Sciences	6. Humanities
5.1 Psychology 5.2 Economics 5.3 Educational sciences 5.4 Other social sciences 5.1 Psychology 5.2 Economics and business 5.3 Educational sciences 5.3 Sociology 5.5 Law 5.6 Political Science 5.7 Social and economic geography 5.8 Media and communications 5.9 Other social sciences	6.1 History 6.2 Languages and literature 6.3 Other humanities 6.1 History and archaeology 6.2 Languages and literature 6.3 Philosophy, ethics and religion 6.4 Art (arts, history of arts, performing arts, music) 6.5 Other humanities

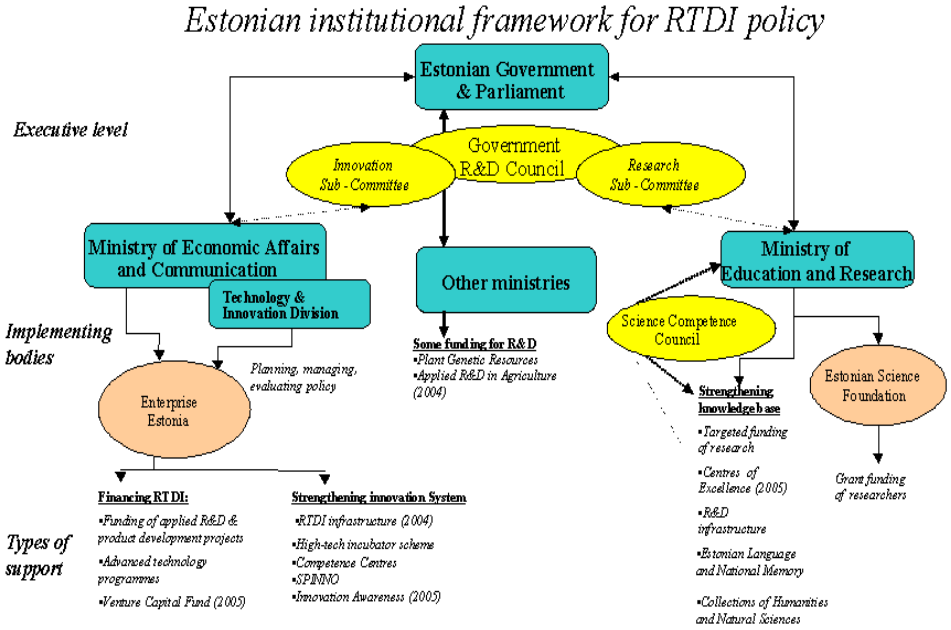
SSH institutional framework 1999 – present

Today the Estonian **Government** carries out the country's domestic and foreign policy, which is shaped by the Riigikogu (Estonian Parliament); it directs and co-ordinates the work of government institutions. Research and technology policies are developed by the Government and proposed to the Parliament for approval.

The Government is advised in R&D issues by the **Research and Development Council** which

- Serves as a strategy advisory body for the Government in the entire field of RD&I;
- Is directing the systematic development of the national RD&I system;
- Chaired by the Prime Minister, 12 members, confirmed by the government for three years;
- The R&D Council is supported by two permanent committees that focus on research policy and innovation policy (see Figure 1);
- The committees are chaired by the Minister of Education and Research and the Minister of Economic Affairs and Communications, respectively, and submit annual reports on the results of the work of the committees as well as their agendas for the upcoming period to the R&D Council.

Figure 1. Estonian institutional framework (Source: Saluver, 2006)



The **Estonian Ministry of Education and Research**, which receives advice from the Research Policy Committee, is responsible for the planning, coordination, execution and surveillance of research and education policy. It is advised by the Research (Competency) Council, Research Policy Committee and by the Estonian Academy of Sciences and assisted by the Archimedes Foundation which acts as the NCP for the EU FPs, organizes evaluation of research and higher education etc.

The **Ministry of Economic Affairs and Communications** is responsible for the planning, coordination, execution and supervision of innovation policy. The Ministry of Economic Affairs and Communications is advised by the Innovation Policy Committee and assisted by Enterprise Estonia.

The **Estonian Academy of Sciences** (EAS), http://www.akadeemia.ee/, unites 57 full members and 15 foreign members - top-level Estonian scientists and scholars and acts as an umbrella organisation for a number of associated learned societies, one research institute and the Estonian Academy Publishers. The primary mission of the EAS is to advance scientific research, providing high-level expertise and science policy advice, disseminating knowledge and promoting scientific co-operation at national and international levels. The EAS represents Estonian science internationally, supports Estonian membership in international scientific unions, and funds and operates a scientific exchange programme with 23 partner organisations abroad. The EAS has a Division of the Humanities and Social Sciences.

The **Estonian Science Foundation** (ETF), http://www.etf.ee/**,** is an expert research-funding organisation. Its main goal is to support the most promising research initiatives in all fields of basic and applied research. The Estonian Science Foundation uses state budget appropriations to award peer reviewed research grants to individuals and research groups on a competitive basis.

Enterprise Estonia, http://www.eas.ee/**,** is one of the largest institutions within the national support system for entrepreneurship in Estonia, providing financing for products, advice, partnership and training for entrepreneurs, research and development institutions and the public and third sectors.

R&D institutions are supported in their activities by several foundations and science parks that aim to create a favourable environment for research in Estonia. The **Archimedes Foundation,** http://www.archimedes.ee/, is an independent organisation founded by the Ministry of Education and Research that co-ordinates and implements programmes and projects for education and research. The Archimedes Foundation is the national contact point for EU Framework Programmes.

At the end of 2006 a Parliament Regulation established the **Estonian Development Fund**, the main task of which is to support knowledge intensive entrepreneurship investing in knowledge and technology intensive business activities and providing management support to such undertakings. But in order to make the best investment decisions, the Fund also supports research in the field of society, science and technology developments.

The Estonian Research Information System – ETIS, **ttp://www.etis.ee/, -** intends to consolidate the information on R&D projects in Estonia. The ETIS consists of 3 main elements: the database of researchers, projects and research institutions. The research information system reflects the project funding provided by the Estonian Ministry of Education (since 2000) and the Estonian Science Foundation (since 2001).

Centres of Excellence. In 2002, the Centres of Excellence Programme was launched in Estonia. The first ten centres, covering a wide range of research disciplines including one covering research in cultural history and folklore, were selected on the basis of open competition and foreign assessment. A centre of excellence consists of internationally recognised research groups working in close or complementary areas and performing research at a high level.

The two centres of excellence covering SSH fields are Estonian Centre of Behavioural and Health Sciences, http://www.ekttk.ut.ee, and the Centre of Cultural History and Folkloristics in Estonia, http://www.folklore.ee/tippkeskus/eng/.

SSH research associations and major research networks. Research associations and societies in Estonia have a long history. The first scientific society in Estonia was the Learned Estonian Society, which was founded at Tartu University in 1838. It saw the study and collection of everything concerning the local culture, history and people as its goal and continues its activities at present. Among the founders of the society, Friedrich Robert Faehlmann (1798-1850), an Estonian doctor and linguist. In 1818, a branch of the Generally Useful and Economic Society of Livonia was launched in Kuressaare. In 1842, the Association of Literature of Estonia was established in Tallinn. The societies were inspired by amateur scientists. These societies when established were an important means for communicating the message of the science of that time to common people and the rural population.

Today the Learned Estonian Society, the Society for History and Philosophy of Science and a few other ones that are based mostly on the personal membership continue to exist and serve a means of information exchange on specific topics in Estonia. The **Estonian Association of Sociologists (ESL**, http://www.sotsioloogia.ee) **and Estonian Economic Association (EMS,** http://www.emselts.ee) provide a meeting place and a forum of discussion for the scientists of the relevant fields in Estonia and act as joint bodies in matters of common interest within these groups. ESL is a member of International Sociological Association. Estonian Economic Association and EMS of the International Economic Association.

In the context of the internationalisation and specialisation of science, most of Estonian SSH scientists are well plugged into and active in European and global professional scientific networks and associations.

The Estonian Research Information System (ETIS) https://www.etis.ee/ concentrates information on research- and development institutions, researchers, research projects and various research results, including the SSH field. The Estonian Research Information System is also an information channel for submitting and processing grant applications and for submitting and confirming project reports.

In 1996 the Estonian Social Science Data Archive (ESSDA) http://www.psych.ut.ee/esta/essda.html was launched as an all-Estonian social science data bank. Since 1997 there has been no regular funding, and the work of the data bank relies mainly on support and social initiatives by the Faculty of Social Sciences and the Department of Sociology of the University of Tartu. Therefore, though ESSDA has archived data from around 250 empirical social studies, more recent and comprehensive information can still be obtained through ETIS.

Short overview of the higher education system

As mentioned in the Chapter One of the report, during the period of 1996-1998, the majority of the former Estonian Academy of Sciences research institutes and institutes subordinated to various ministries were merged with the universities. According to results of the evaluation of research organisations in Estonia conducted in 2004, this institutional change had positive results in terms of the quality of research and higher education in Estonia and an efficiency of the use of the research funding.

The higher education system in Estonia consists of three stages – Bachelor, Master and Doctor of Science. The organisation of the higher education and standards are set by a Regulation of Estonian Ministry of Science and Education (2002) following the main directions of Bologna Process in the field of the degree system, quality assurance and recognition of degrees and study periods.

In Estonia higher education is offered besides universities also by institutions of professional higher education. Starting from 1999, also some vocational schools were given the right to offer professional higher education programmes.

However, the research activities are mainly concentrated into universities. In 2006 there were 6 public[1] and 5 private universities in Estonia. Though the curriculum covered by private universities chiefly embraces the fields of business management, administration law and humanities, research in SSH field is mainly carried out at public universities.

A valuable indicator of the national scientific potential of a field is its research training system. The 5 Doctoral Schools in SSH field currently working within Tallinn University and University are making an important contribution to improve Estonian SSH research portential.
Among them Graduate School of Social Sciences http://www.tlu.ee/index.php?LangID=2&CatID=1449 that recently celebrated its 5 years of existence, Graduate School of Educational Sciences,
Doctoral School of Humanities are in Tallinn University while Doctoral School of Economics - www.mtk.ut.ee/doctoral_school are Doctoral School of Linguistics and Language Technology - www.fl.ut.ee are in University of Tartu

In a small state like Estonia a special consideration should be given to co-operation between higher education institutions, both private and public, which may sometimes alleviate the problem of limited infrastructures or human resources. However, the current relations between the universities are rather competitive, partly resulting from the historical dominant role of University of Tartu that was the only national state university during the Soviet time and during the first years of independence remained the best placed in terms of staff, resources, students, and international contacts. The national state university had privileged status and was often quite independent from the Ministry of Education. Today the situation has changed, but the past privileged status still causes frictions with the other universities.
Furthermore, the state funding system of higher education institutions has been rather competitive with its very little base-line funding and the system of allocating resources according to the number of registered students.

In order to develop the state's research capacity, more cooperation between the higher education institutions should be favoured, and it is the role of the state to provide incentives for such cooperation.

Main universities and institutes carrying out research in the field of SSH

Research in social sciences and humanities is mainly carried out at Tallinn University and University of Tartu.

The **Institute of International and Social Studies** http://www.iiss.ee/ under **Tallinn University** is one of the most important research centres in social sciences in Estonia. Its 4 departments

[1] Tallinn University http://www.tlu.ee
Tallinn University of Technology http://www.ttu.ee
Estonian Academy of Music http://www.ema.edu.ee
Estonian Academy of Arts http://www.artun.ee
Estonian University of Life Sciences http://www.emu.ee
University of Tartu http://www.ut.ee

cover the fields of family sociology, international relations, democratic governance and social stratification.

Department of Family Sociology is one of the oldest academic structures in its field in Estonia that has been working consistently till today. The current department has grown out from the section of sociology established in 1966 in the Institute of History of the old Academy of Sciences. In the first years the research focused on sociology of work and culture. The subject of the family started prevailing since 1980s. Since 1966 up to now the research group has carried out comprehensive opinion polls among the residents of Estonia. Since 1995 the department participantes in the questionnaire of the all-European project ESPAD (European School Survey Project on Alcohol and Other Drugs). The International Relations Department was established in 2005. The aim of the Department is to develop the research and teaching of international relations in Tallinn University. Its main objective is to foster a better understanding of some of the most central issues of our contemporary world, and to communicate findings to researchers, students and policy-makers alike.

Since its establishment, the Department of Goverment has played an important role in the Estonian political science landscape. The major scholarly achievement of the department (which is very much related also to developmental activities) consists in the fact that the conceptual part of the 'Integration Programme of Estonian Society 2000-2007', adopted by the Estonian Government in March 2000, was developed by its researchers. The conceptual part of the programme represents an innovative approach, which on the one hand is based on John Rex's theory of multiculturalism and on the other hand tries to relate the concept of multiculturalism to post-communist realities.

The Department of Social Stratification is involved in a number of international research projects such as „TransEurope Research Network: Transnationalisation and Changing Life Course Inequality in Europe", FP6 project „Towards a Lifelong Learning Society in Europe: the Contribution of the Education System", the research project "Educational systems and labour markets in Central and Eastern European transformation countries" supported by Volkswagen Fund, etc.

Another research centre under Tallinn University is the **Institute of History** http://www.ai.ee/ which also hosts the Centre for Medieval Studies, established in 2005. The prime emphasis of the Centre's research interests focuses on the medieval Europeanization process and the cross-cultural interaction in the frontier areas, with a special emphasis on the comparative research into the political, social, economic, cultural and religious integration of the Baltic Sea region (10th-16th centuries).

Tallinn University includes two more research centers in SSH field, namely **Institute of Estonian Demography** and **Institute of Educational Research.**

University of Tartu that is the oldest and largest university of Estonia has been successful in applied research and development. Though it is its Centre for Molecular and Clinical Medicine and the Institute of Physics that have earned the title of "European Commission Centre of Excellence", research in social sciences and humanities is given a considerable attention as well. The university has drafted quite comprehensive overviews of the main research directions and

results in the area of social sciences
http://www.ut.ee/orb.aw/class=file/action=preview/id=161124/SocialiaOK.pdf and humanities
http://www.ut.ee/orb.aw/class=file/action=preview/id=161122/Humaniora.pdf

Besides the research centres of Tallinn University and University of Tartu, there are still a few centres and institutes carrying out research in the field of SSH.

The **Centre for Economic Research http://www.tami.ee/page1_eng** is a structural unit of the Faculty of Economics and Business Administration at Tallinn University of Technology (TUT). The Centre was founded on 1 April 2005 by integrating the Estonian Institute of Economics at TUT into the Faculty of Economics and Business Administration. Therefore, the Centre is a successor, in terms of continuity, of the Institute of Economics of the Estonian Academy of Sciences, founded in 1947 (since 2 December 1997, Estonian Institute of Economics at TUT). The task of the Centre is conducting of fundamental and applied economic research.

Estonian Institute of Economic Research (EKI) http://www.ki.ee/en/index.html operates under a private legal status dedicated to applied (developing) research. The primary aim of EKI is, through its research, to further develop the Estonian economy. EKI gathers socio-economic data, processes and analyses it in a manner which allows high quality inferences to be drawn and macro as well as micro-economic decisions made.

The research of the **Estonian Institute for Futures Studies (EIFS)** http://www.eti.ee/, founded in 1991, mainly focuses on the Estonian society from the point of view of its universal sustainable development, long-term economic efficiency, openness and democracy.

PRAXIS Center for Policy Studies http://www.praxis.ee/?lang=en is an independent not-for-profit think tank based in Tallinn, Estonia. Founded in 2000, the mission of PRAXIS is to improve and contribute to the policy-making process in Estonia by conducting independent research, providing strategic counsel to policy makers and fostering public debate.

In the field of humanities**, Institute of the Estonian Language** http://www.eki.ee, founded on 1 1947, has the longest research tradition. The Institute studies the standard Estonian language, Estonian dialects and cognate languages, and provides for the care, planning and development of the Estonian literary standard. The Institute is engaging in constructive co-operation with the language departments of Tartu University and Tallinn Pedagogical University, however preserving its independence as a state research institution. Close co-operation is contemplated (primarily in the area of language technology) with the Institute of Cybernetics at Tallinn Technical University.

SSH policy frameworks

Science and Technology (S&T) priorities and the weight/place of the SSH in the national S&T priorities

Estonian research, development and innovation strategy for 2007–2013, *Knowledge-based Estonia II*, adopted by the Government in February 2007, lays down the main directions of the RTD and innovation activities in Estonia. The document emphasizes the necessity for a long-term perspective in RTD investments, in order to better weigh the impacts and requirements arising from external factors (global trends in scientific, technological and economic development; the internationalisation of research, etc.) as well as internal factors (the implementation analysis of the previous strategy document, the need to apply scientific knowledge to meet socio-economic challenges, etc.). The strategy establishes the target of raising the total amount of RTD investment to 1.5% of GDP by 2008 and to 3.0% by 2014. – In 2002 this number was 0.75% and in 2005 - 0.94%.

The strategy key principles are:

- Promote high-quality and internationally competitive research
- Develop conditions for sustainable growth of RTD&I system
- Focus on human potential and infrastructure
- Support for innovation projects which create high economic surplus value

The strategy priorities include:

- Establishment of national RTD programmes that would support the development of key technologies, including information and communication technologies, biotechnologies, and material technologies;
- Solving socio-economic problems (e.g., in the field of energy, national defence and security, health care, environment protection and information society);
- Ensuring and promoting the sustainability of research related to Estonian national culture, language, history, nature and the Estonian state.

The strategy therefore supports the development of the SSH in Estonia; there is comparatively more attention to the development of human sciences, mostly linguistics and cultural studies, in the strategy for 2007 – 2013 to compare to a strategy that was developed for and implemented in 2002 – 2006.

Another important strategic document that concerns the RTD&I activities in Estonia is "National Strategy on the Use of Structural Funds 2007-2013". The strategy contains support to programmes of supporting RTD&I as well as higher education. To ensure coordinated use of the financial resources from EU Structural Funds with funds from the Estonian state budget, in 2007 the mentioned strategy was developed as a part of the Estonian national budget strategy 2007-2010, see more at http://www.fin.ee/res2007.

The „National Strategy for Higher Education Development in 2007 – 2013" was also adopted and is being implemented.

National policies regulations on national research activities

Act on Organisation of Research and Development in Estonia was adopted in 1994 and amended in 1997 and in 2001; this act laid down the legal basis of the RTD in Estonia. There are a number of other legal acts and regulations, including Law on Estonian Academy of Sciences, Law on establishment of the Estonian Research Information System and others, that regulate organisation of research and higher education in Estonia.

Bilateral and multilateral S&T agreements

Estonian Academy of Sciences (EAS) operates a number of bilateral agreements with its counterparts in other countries. The agreements usually contain provisions on the exchange of scientists, specifying the number, financial terms and conditions of that exchange. Both out-bound and in-bound mobility are supported. The living expenses of a scientist nominated by a partner Academy for a visit to Estonia are covered by the **Estonian Academic Foundation for International Exchanges (see more at** http://www.akadeemia.ee/), which was created at the EAS for this purpose in 1993. Since 1993, approximately 80 visiting scientists total have been hosted by the EAS under the exchange agreements each year where majority of the scientists are in natural science.

Multilateral frameworks for the promotion of the international collaboration in SSH

EU RTD FP framework programmes

Estonian government and research organisations are very active in the development of the international cooperation which is important for the development of science especially in such a small state as Estonia. Since 1993, a number of Estonian scientists participated in the 3rd and 4th EU RTD Framework Programmes sub-programmes such as PECO, COPERNICUS and INCO-COPERNICUS. In 1997, Estonia joined the European research and technological cooperative network COST - the European Cooperation Programme on Scientific and Technical Research.

The 5th Framework Programme (FP5) was the first one where also EU candidate states, such as Estonia at that time, could participate in the framework programme activities. Although at the start of the FP5 many Estonian scientists were rather pessimistic about possibilities to participate and there were also sceptical opinions that Estonian payment for participation in the FP5 could be lost due to a low participation of Estonian scientists in the FP5, Estonia was the first of the candidate states of that time that joined the FP5 – it took place on 31. 05. 1999. This was the first time when Estonian scientists had to compete, on a more or less same footing, with European scientists for the EU research funding.

Estonia paid, as a fee for participation in the FP5, about 6 million EUR. Results of the already first projects' competitions in FP5 demonstrated that there were no reasons for concern. A total budget of projects gained by Estonian scientists turned to be almost three times higher than the Estonian FP5 payment. On all the stages of the FP5 participation of Estonian scientists and enterprises was high. In total, Estonian organisations participated in 809 project proposals, from which 206 ones turned out to be successful. Undoubtedly participation in the FP5 allowed

Estonian scientists to gain experience of international research cooperation and opened new horizons for participation also in other the European research cooperation programmes and networks.

It is worth pointing out that the participation of Estonian researchers in the EU research structures i.e. in the 6th Framework Programme has been quite significant. By 1 February 2005, 693 project applications were submitted, out of which 116 were successful. The statistics showed that Estonian researchers are more successful in the FP6 Specific Targeted Research Projects and Specific Support Actions that were of more limited scope and ambition than some other instruments available for implementing the priority thematic areas of the FP6. Somewhat striking is probably the fact that the highest participation has been in the projects of information technology and social sciences and humanities; moreover, social science projects have been among the most successful. But at the moment according to the national R&D strategy the state does not aim at nurturing the potential of Estonian social sciences, and the researchers rather pursue their private research interests than those of the state.

In light of the lack of (young) scientists coming to Estonia, two recent initiatives of the European Commission – the **European Network of Mobility Centres (ERA-MORE)** and the **Researcher's Mobility Portal** – have come at the right time for Estonia. **Human Resources and Mobility (HRM)** activity has largely contributed to improving the competitiveness of Estonian researchers by financing training and mobility activities for researchers. These activities, known as the **Marie Curie Actions**, have contributed to the development of Estonian research by transfer of research competencies and widening of researchers' career prospects.

In order to support internationalisation, a state programme is planned to be developed whereby new instruments will be suggested for bringing highly qualified specialists to Estonia, for supporting the mobility of Estonian researchers, teaching staff and students, for starting up study programmes that have been developed in cooperation with foreign higher education institutions in Master's and Doctoral studies, and substantially increasing the number of foreign students in Estonian higher education institutions.

Other European international organisations and networks

In 2000, the Estonian Science Foundation and Estonian Academy of Sciences became members of the European Science Foundation. The European Science Foundation is a membership organisation consisting today of 78 member organisations - Research Councils and Academies of Sciences of European countries.

In the same year, Estonia joined INTAS - The ***Int***ernational **As**sociation for the Promotion of Co-operation with Scientists from the New Independent States (NIS) of the Former Soviet Union. In 2001, Estonia also joined the EUREKA - the European Research Coordinating Agency, an intergovernmental network that as of today includes 35 countries - members.

SSH funding

The old system of scientific funding in Estonia (before 1990s) was typical of the Soviet Union: planned budget funding of higher education and the Academy of Sciences. Research institutes belonging to other ministries, got funds directly from them. These research institutes and laboratories were mostly related to applied research and development. Generally speaking, funds were allocated to large systems and distributed down. In 1990, the Estonian Government started creating foundations. The foundations had to provide funds for oriented research and development projects according to peer review and expert opinions. In 1990, the Estonian Science Fund (ESF), Estonian Informatics Fund and Estonian Innovation Fund were established. Since 1991, state funds allocated to basic and applied research have been distributed by the ESF.

Currently the total amount of RTD investments in Estonia in relation to GDP was 0.75% in 2002, 0,88% - in 2004 (see Figure 3); and in 2005 - 0.94% (Source: Archimedes, 2006).

Instruments of the Estonian R&D funding system are:

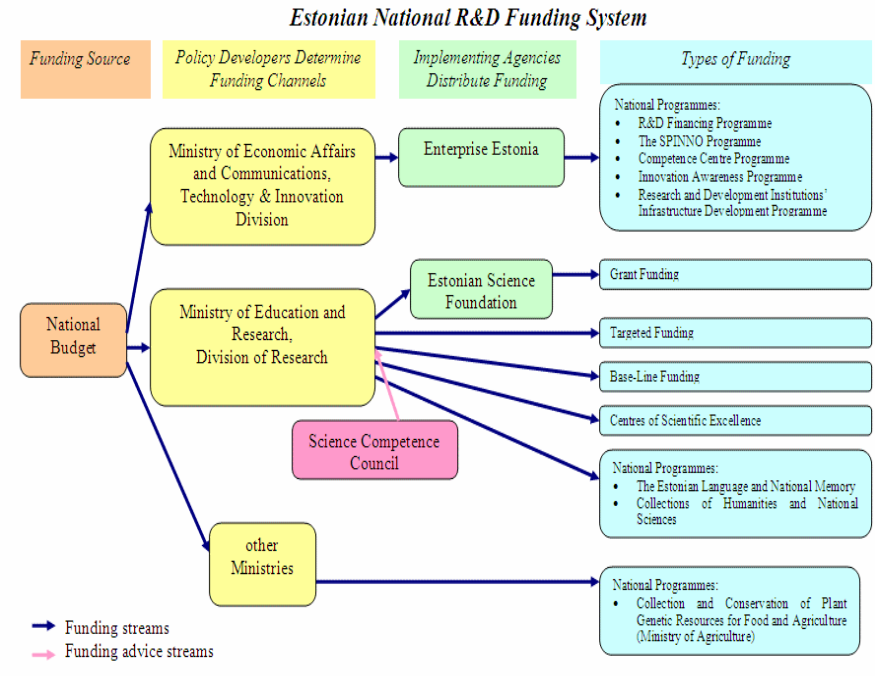
- Targeted financing;
- Research grants funding;
- National research and development programmes;
- Funding of research and development infrastructures.

To embark upon major reforms of research funding system and to have an external evaluation, in 2002 the Ministry of Education and Research in Estonia commissioned PREST (Policy Research in Engineering Science and Technology), an Institute of the University of Manchester in the United Kingdom to carry out an assessment of the R&D funding system operating in Estonia. The assessment brought out the deficiencies of public funding that was mainly given on competitive basis while the basic funding was extremely scarce. The split of the national research and innovation system into two almost completely independent parts – this of the Ministry of Education and Research lead academic science and the part of the system lead by the Ministry of Economic Affaires and Communications which is closer to the ideas of "commercial" science – was another shortcoming. Moreover, the report critisised the criteria of academic excellence used for allocating public research funding, focusing on the number of publications, novelty and originality, that do not exactly favour research in social sciences.

The consequent reforms of Estonian research policy have taken into account some of the recommendations of the PREST assessment. Thus, the practically non existent public base-line funding for research organisations was established in 2004 and it has increased from 64.41 million Estonian kroons (EEK) in 2005 to 97.31 million EEK[2] in 2007. See **Table 2** for the distribution of the baseline finding between the research organisations. Kui jouate ministri kaskkirja tabeli ara tolkida.

[2] The Estonian kroon is fixed against the euro at 1 EUR = 15.6466 EEK.

Figure 2. Estonian national RTD funding system (Saluver, 2007)



Base-line funding increases the initiative and responsibility of R&D institutions when planning their research activities and allows them to focus more on their main activities and acheive better results. It provides for more financial stability of R&D institutions. The organisations whose R&D activities have been positively evaluated receive the base-line funding. 95% of the funds of the state budget intended for base-line funding are allocated taking into consideration the R&D activities of the three years preceeding the year of data collection. The evaluation criteria includes the number of articles published in internationally recognised scientific journals, monographs, patents and patent applications of to the insititution. Moreover, the research grants and awards received by the institute as well as income from patents are taken into consideration. http://www.hm.ee/index.php?044763.

Targeted financing is decided by the Minister of Education and Research by recommendation of the Estonian Research Council. Both basic and applied research is funded. Evaluated and registered research institutions may apply. The funding period for approved research topics is up to 6 years, subject to periodical assessment of progress. All of the research topics that have been approved for targeted financing are assessed each year. 24 new research topics with a total budget of 26.4 million croons were approved for targeted financing in 2006. The targeted financing of 202 research topics is continued with 236.2 million croons.

The Estonian Science Foundation (EstSF) awards **research grants** to individuals and research teams on a competitive basis. Project applications are evaluated by expert commissions and approved by the EstSF Council. In the year 2005 EstSF financed 653 research grants to the amount of 85.1 million kroons. Grants for post-doctoral studies are also awarded by EstSF.

Data on targeted financing and EstSF grants is available from the Estonian Research Information System, ERIS: http://www.eris.ee/. Estonian Science Foundation website is http://www.etf.ee/

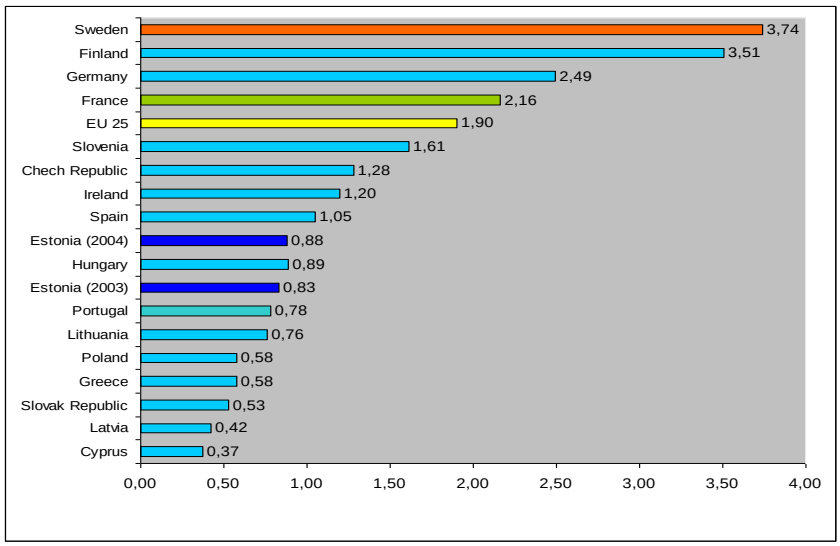
National research and development programmes are launched and funds allocated to research institutions by the ministry responsible for the implementation of the programme. As of spring 2006, Estonia has five national R&D programmes:
• "The Estonian Language and National Memory";
• "Collections of Humanities and Natural Sciences";
• "Collection and Conservation of Plant Genetic Resources for Food and Agriculture for the Years 2002–2006";
• „Applied Agricultural Research and Development in the Years 2004 – 2008";
• „Language technology support for the Estonian language".

Therefore, the national research programmes supports to a great extend the humanities, with focus on linguistics and Estonian language conservation and development. Information on national R&D programmes can be found on the web page of the State Chancellery of the Republic of Estonia, in the chapter on Research policy in the R&D section.
http://www.riigikantselei.ee/tan/

Through **Enterprise** Estonia, http://www.eas.ee/, and its sub-units, the Ministry of Economic Affairs and Communications finances R&D programmes that involve applied research aimed at product development, co-operation with enterprises and entrepreneurs, and technology programmes for priority areas.

EU Structural Funds, see http://www.struktuurifondid.ee/, are an additional financing instrument to provide support to the development of research infrastructures, human resource development and to raise the competitiveness of enterprises; more than ten structural funds measures are available for these purposes. The implementing agencies for measures concerning research and development are Enterprise Estonia and the Foundation for Life-Long Learning Development INNOVE, see more at **http://www.innove.ee.**

Figure 3. Gross domestic expenditure on R&D as a percentage of GDP, 2004
Source: Archimedes Foundation. 2006. The ERA-MORE Visiting Researcher's Guide to Estonia, Tartu, Estonia. Available at http://www.smartestonia.ee/



National approaches to the evaluation of scientific capabilities

Estonia has adopted the evaluation approaches of research performance that are strictly based on the „auditing society" principles (Weingart, 2006) – mostly quantitative and based on the bibliometrics measurements. External evaluation by international experts of Estonian grant applications is widely used. For instance, since its establishment, Estonian Science Foundation accepts grant applications in English language; this allowed using international experts in the evaluation process of the ESF applications.

Evaluation of researchers is performed based on numbers of ISI Web of Science publications produced by scientists and numbers of the publications' citations. Research grants by most of state funding programmes are decided based on the availability of international peer-reviewed publications. Information on the researcher's experiences, projects and publications is available in the Estonian Research Information Portal www.etis.ee and are used by evaluators who decide on the funding. Grants by the targeted funding support programme are awarded, for instance, to research teams who have at least three scientists with a needed number of publications. No other criteria are really used for evaluation of science on the individual researchers' level when the state research funding is decided. Such an evaluation approach has undoubtedly stimulated the growth of international peer-reviewed publications by Estonian scientists (see Figure 4) which shows Estonia on the international level as a positive example. On the other hand, this situation does not stimulate the scientific discussion. Instead this keeps the focus of the discussion among scientists on numbers of publications and as one scientist put it, it treminds a „meat market" where during the applications' period those few scientists in Estonia (who as a rule produced most of their articles while working in one of Western country where scientists are paid better to do science) are torn apart by different research groups who are putting together their applications.

Those applicants are prepared to take a scientists with publications no matter if that scientist research topic and interests are compatible with the agenda of a given research team or not.

The evaluation system in place affects negatively the situation of the SSH. Unlike natural sciences, in Estonia there is only one human sciences peer-review journal – TRAMES (in English language) so within Estonia for SSH researchers publishing possibilities are extremely restricted. The current system does not motivate to publish in Estonian languages while most of humanities scholars would usually publish in Estonian.

Evaluation of research groups and institutions are organised regularly in Estonia since 1991. This evaluation is important as the state funding to research organisations can be approved only to those organisations that received a positive research performance evaluation.

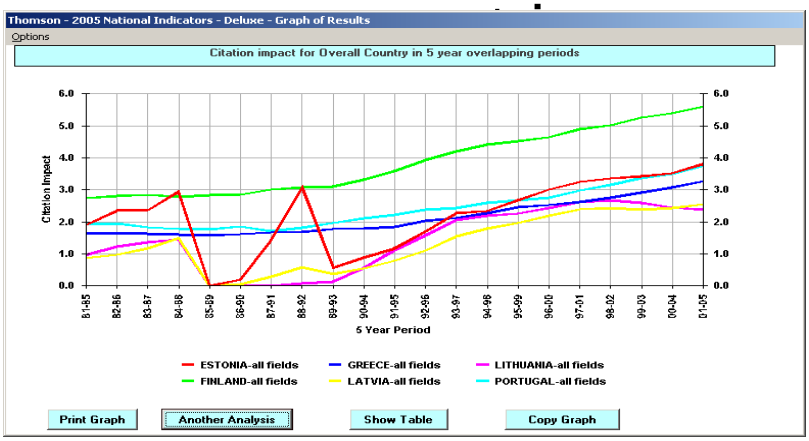
In 1991-1992 the Swedish Research Council conducted an evaluation exercise where the level of Estonian science was compared with international standards. In 1994-1995 Estonian Research Council of Estonia (TAN) conducted international evaluation and as a result of the evaluation, recommendations for changes needed for creating a balanced system of research were elaborated and later implemented. In 2003, PREST of the Manchester University, UK, conducted an international evaluation of the RTD financing system and formulated proposals for improving the financing science in Estonia (Nedeva, Georghiou 2003). One of the main recommendations of the PREST evaluation was establishment of a transparent system of the research-driven (targeted) funding programme.

The last evaluation on the institutional level was conducted in Estonia in 2000-2004; it was organised by the Estonian Ministry of Science and Education and other state agencies with an invitation of international independent experts – outstanding scientists from the scientific fields they were evaluating. The evaluation was conducted mostly on the departments' (research groups) level, in some cases – on the level of research organisations. The evaluation included separate ratings for *quality of research* and for *overall capability* of the research groups. The exercise included an extended citation analysis complimented with studies of other documents, interviews of staff, PhD students of the research groups and organisations. The next institutional evaluation is to be conducted in Estonia in 2008.

In overall, the research evaluation in Estonia favours applied fields of natural sciences. According to Aittola (2001), in the case of Estonia it also means: "Those who have will be given more" (the Matthew principle). The Estonian current funding system uses too restricted criteria that give preference to the already developed research fields and well-established scientists, mostly in natural sciences.

Figure 4. Citation impact of Estonia (in all fields of sciences) to compare to other EU member states (Source: Saluver, 2007)

Citation impact, 5-year periods, compared with selected



Compare citation impact to selected countries.

Challenges and prospects for the support of SSH in Estonia
Policy recommendations

High quality scores received by a number of Estonian research teams as a result of international evaluations of research areas indicate a potential of Estonian research to achieve top results in forefront research and to participate actively in the international cooperation both towards the EU as well as with the „third countries". Indeed, Estonia is successful in developing foreign cooperation with 12.7% of research funding sourced from abroad, the corresponding EU average being 7.7% (Technopolis, 2005). This success is related to the active participation of Estonian researchers in the EU RTD Framework Programme, with a success rate of close to one quarter of all proposals submitted.

The institutional framework for SSH in Estonia does promote the involvement of Estonian scientists in the international research cooperation as what is encouraged is international publications in international journals. As the statistics shows, a number of publications in international peer-reviewed journals by Estonian SSH researchers increased during the last decade greatly. Estonian science is becoming more and more competitive on the international level thanks to the policies implemented by the government.

Funding for SSH was increasing since beginning of the 1990s; the last years this is connected with the establishment of state programmes aimed to support Estonian language and cultural heritage preservation; this supports further development of the traditionally strong in Estonia research fields as linguistics and cultural studies.

However, financial support to the SSH remains to be low, Estonia continues to under-invest in research and development, compared to other EU Member States. While total R&D expenditure has grown by approximately 3.7% a year during the 1999-2003 periods, reaching 0.83% of GDP in 2003, Estonia still lags far behind the EU25 average (1.93%). Estonia on this point is not producing an adequate number of new qualified scientists and engineers to sustain knowledge based society. While the relative importance of researchers and engineers in the total working-age population has increased to some extent during the 1999-2003 period (shifting from 4.3 in 1999 to 4.6 researchers and engineers per 1000 people), the EU average is 5.8; while in Finland the figure is 15.8! (Technopolis, 2005). This results in a very low interest among young people towards doing science. A number of younger scientists in SSH is far from being sufficient; there are difficulties with filling in positions of doctoral and post-doctoral students. There are as not yet good prospects for young researchers to do science – the salary level of the young scientists entering the job are much lower than in industry; does not motivate to accept science as a carrier.

Another major difficulty for the SSH development in Estonia is that the existing evaluation and support system of research in Estonia is natural science biased and promotes support to already established fields and research groups which means that less developed due to the historical context areas (such as political sciences, government studies, some areas of economics) and emerging interdisciplinary fields of research are in much less favourable conditions for the development. As a consequence, the development of different fields of the SSH in Estonia is quite uneven and on this point there is little interdisciplinary research. There are a few "islands of excellence" in the SSH in Estonia. It is likely that this situation will remain also in the future –

with a few fields historically developed and currently supported, such as linguistics, cultural studies, quantitative sociology and other more policy relevant fields that are led by a few outstanding scientists individually without the development of larger research groups or projects in the SSH. However, it maybe the case that for a small country such as Estonia is, this is the only realistic scenario in the SSH development.

To promote a more balanced in terms of fields the SSH research, it would be needed to initiate larger SSH interdisciplinary research programmes bringing together scientists from different disciplines – from political science, international relations, other social sciences as well as linguistics and semiotics. A few steps were made in that direction, for instance, at the University of Tartu new interdisciplinary institutes were created, such as Institute for Politics and Government and Institute for Sociology and Social Work that should motivate creation of larger research groups.

In addition, the ongoing efforts of developing international research activities of Estonian scientists with scientists in third countries, for instance those involved in the cooperation with scientists in the East – CIS countries and China (FP6 projects of PHOENIX and GlobalSSH, Tartu Science Park, EU TACIS Georgia project) and others, should be also supported not only by scientists themselves through raising funds in the international projects; that international research is important for Estonia and should also receive additional support through the government funding. In principle, there are good chances for that as the Estonian structural funds use strategy for 2007 – 2013 foresees co-funding to research groups participation in the EU framework programmes.

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